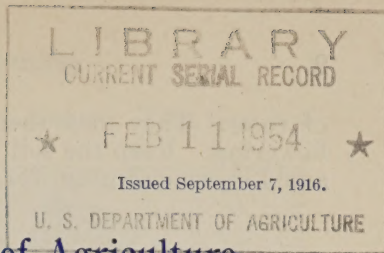


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## United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

Office of Congressional Seed Distribution,

WASHINGTON, D. C.

### DISTRIBUTION OF TULIP AND NARCISSUS BULBS IN 1916.

#### DIRECTIONS FOR PLANTING.

The bulbs sent herewith are of two kinds—(1) tulip and (2) narcissus. (Figs. 1 and 2.)

These bulbs should be planted in light, rich soil that has been dug to a depth of at least 10 inches. The tulip bulbs should be set 5 inches apart and 4 inches deep and the narcissus bulbs about 10 inches apart and 5 inches deep. The tulips should be planted some time during October, preferably about the middle of the month. The narcissuses should be planted some time between the middle of September and the last of October, preferably about the first of October.

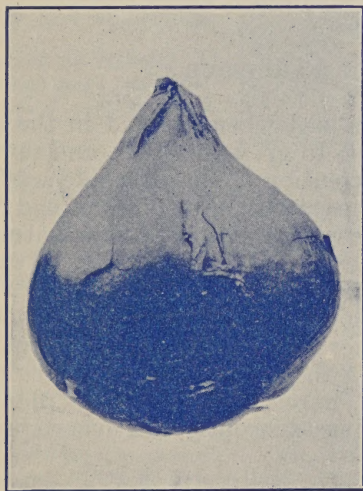


FIG. 1.—Bulb of tulip.



FIG. 2.—Bulb of narcissus.

If they are to be grown in pots or window boxes, light, rich soil should be used. Place 1 to 2 inches of cinders or broken pots in the bottoms of the pots or boxes to insure good drainage. After planting, place the pots or boxes out of doors and cover them with about 4 inches of ashes or sand; or they may be placed in a dark, cool room or cellar for a few weeks until the bulbs have formed a quantity



of roots. They may then be brought into the light and heat for flowering. Keep the soil well moistened from time of planting, but avoid overmoistening, for if kept too wet the bulbs will decay.

#### CULTIVATION.

If planted in beds, the surface of the soil should be loosened after each rain and the bed kept free from weeds. In the late fall or early winter months it is well to cover the beds with a light mulch of straw or leaves to prevent injury to the young roots from the alternate freezing and thawing of the soil. This mulch should be gradually removed in spring, as soon as growth appears above ground. The bulbs are quite hardy and are not injured by severe cold if the soil is well drained.

#### LIFTING AND DIVIDING.

Tulip and narcissus plants are perennial, and if given proper care and grown under suitable soil and climatic conditions will increase and multiply from year to year. The bulbs may remain in the ground two or three years, or until the clumps begin to crowd. After blossoming in the spring, from six to eight weeks should elapse to allow the foliage to die partially down, when the bulbs may be lifted with a spade or fork. Shake the soil from the roots and store the bulbs in a cool, shady place where they will ripen and cure. When the old leaves and roots are thoroughly dry they may be easily rubbed off and the clusters of bulbs divided. The bulbs may then be planted in the same manner as the original bulbs. In this way the stock may be increased in a few years.

#### NATURALIZING THE NARCISSUS.

The narcissus often becomes naturalized when planted in the sod or partial shade, where it will continue to grow, blossom, and multiply for many years without further attention. Simply make a small hole in the soil 5 or 6 inches deep, insert the bulb pointed end up, press the soil over the top, and nature will do the rest. For naturalizing, avoid planting in rows or rigid geometrical figures. A good plan is to scatter the bulbs like seed and plant where they fall. This method of planting is extensively followed in the home grounds and parks of England and other countries in Europe. In portions of North Carolina, on large estates along the James River in Virginia, and in old gardens in New England, narcissuses that were planted over half a century ago are still growing vigorously and every spring produce beautiful displays of blossoms.

#### VARIETIES.

Several hundred varieties of both tulip and narcissus are listed in the catalogues of florists and seedsmen. Narcissus is the botanical name for the genus of which the daffodil and the jonquil are species.

The narcissus with large trumpets and flat leaves is commonly called the daffodil. Jonquils have glossy, dark-green, very narrow, three-cornered, or rushlike leaves. Most of the intermediate forms are hybrids. New varieties are originated by growing bulbs from



seed resulting from crossing one type with another. This is a slow process, as several years are required to produce a mature bulb from seed.

#### DESCRIPTION OF VARIETIES.

A brief description of the Holland bulbs included in the congressional distribution follows.

##### TULIPS.

**ARTUS.** Single, early, bright deep scarlet.

**CARDINAL'S HAT.** A dark, brownish red flowered single early tulip with edges of petals yellow. An effective bedder of medium height.

**CHRYSOLORA.** Single, early, very large, widely opened flower. Color a pure golden yellow.

**COTTAGE MAID.** A single early tulip with a large pink and white blossom.

**DUCHESS DE PARMA.** A single early tulip of blended orange and red color.

**KEIZERKROON.** A single, early, very large, mixed orange and red variety.

**ROSE GRIS DE LIN.** One of the finest dwarf early tulips. Color rose, fleshed with pink. A splendid tulip for forcing or bedding.

**THOMAS MOORE.** A bright, clear, orange red, shading to crimson, single early tulip of good form and substance. A good bedder.

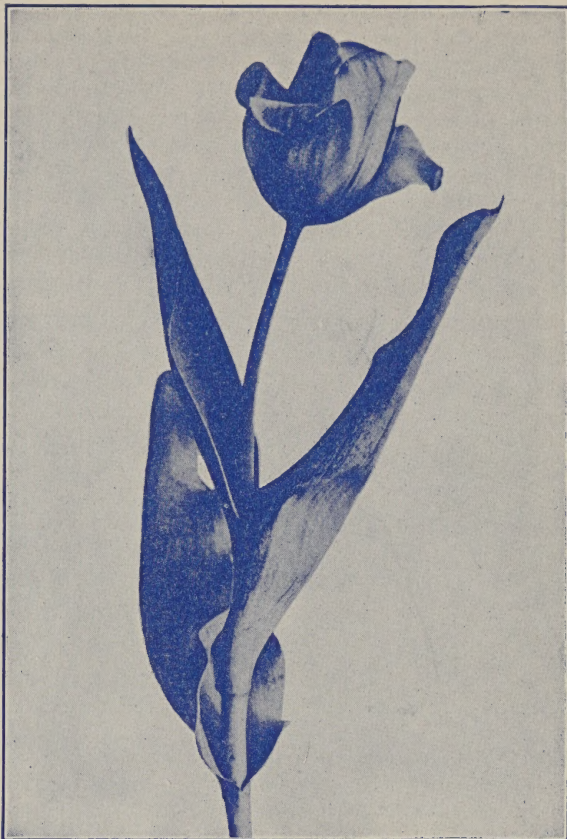


FIG. 3.—Blossom of tulip.

##### NARCISSUSES.

**POETICUS ORNATUS** (pheasant's-eye or poet's narcissus; the true narcissus). Blossoms pure white, perianth with red, flat, saucer-shaped cup or crown. Very fragrant. (Fig. 4, c.)

**BARREI CONSPICUUS.** Large soft-yellow perianth; short or intermediate form of cup, edged with orange scarlet. (Fig. 4, b.)

**EMPEROR.** Pure golden yellow, very large, with immense trumpets. (Fig. 4, a.)

**EMPRESS.** Pure white perianth with a large rich-yellow trumpet.

##### WHERE DUTCH BULBS ARE GROWN.

Tulips and narcissuses, as well as hyacinths, are known generally as Dutch bulbs, because the growing and marketing of these bulbs is one of the principal industries of the Netherlands. Bulbs are also grown extensively in southern France, in England, Ireland, and the island of Guernsey. Most of the bulbs sold by florists and seedsmen in the United States are imported directly from the Netherlands, the annual importations amounting to nearly a million dollars in



value. Tulips and narcissuses can be propagated and grown successfully along the Atlantic and Pacific coasts and in the region of the Great Lakes, but owing to the cost of labor only comparatively limited areas have been planted. The largest areas devoted to the growing of these bulbs on a commercial scale in this country are to be found in the vicinity of Portsmouth and Richmond, Va., Hoxsie, R. I., Newbern, N. C., Bellingham, Wash., and Santa Cruz, Cal. A single grower near Portsmouth, Va., has 65 acres in narcissuses, and during the blooming seasons ships daily large quantities of blossoms. Comparative tests on the trial grounds of this department indicate that American-grown tulip bulbs are freer from disease and blossom from five to seven days earlier than the same varieties imported from Europe; also that the flowers from Bellingham-grown bulbs are on

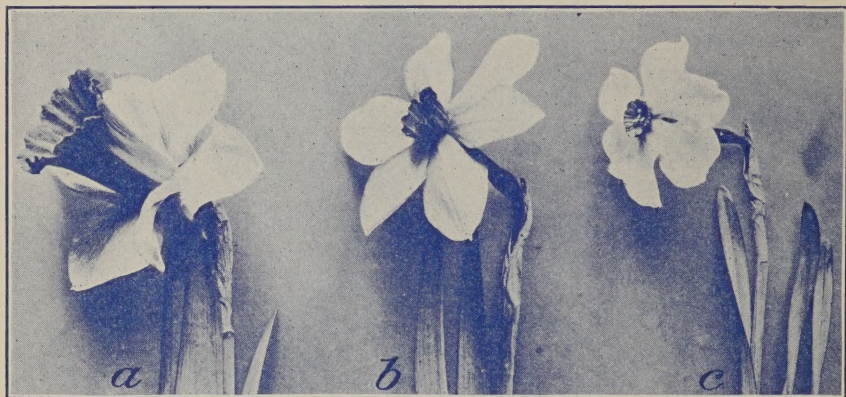


FIG. 4.—Blooms of Emperor (a), Barrii Conspicuus (b), and Poeticus Ornatus (c), representing the three principal types of narcissus, with large, medium, and small crowns or trumpets.

longer stems and of better color and quality than those from foreign-grown bulbs.

In order to encourage the growing of Dutch bulbs in this country on a commercial scale and to provide American-grown bulbs of superior quality for congressional distribution, the Department of Agriculture established a bulb-propagating garden near Bellingham, Wash., where the conditions of soil and climate are similar to those in the Netherlands. The experimental work carried on at Bellingham in connection with the propagation, cultivation, harvesting, storing, and planting of these bulbs has been very satisfactory. Bulletin No. 28 of the United States Department of Agriculture, entitled "Experiments in Bulb Growing at the United States Bulb Garden at Bellingham," by P. H. Dorsett, issued November 11, 1913, gives in considerable detail the results of the work at Bellingham up to that date. This bulletin can be obtained without cost upon application to the Secretary of Agriculture.

R. A. OAKLEY,  
*Agronomist in Charge.*

Approved:  
WM. A. TAYLOR,  
*Chief of Bureau.*

JULY 28, 1916.